Graduate Diploma in Information Technology (IT Graduates) (IT35)

Year offered: 2011
Admissions: No
CRICOS code: 018771J
Course duration (full-time): 1 years
Course duration (part-time): 2 years
Domestic Fees (indicative): 2011: Full fee tuition $7,500 (indicative) per semester
International Fees (indicative): 2011: $11,125 (indicative) per semester
Total credit points: 96
Course coordinator: Dr Ernest Foo
Campus: Gardens Point

Course is under review
From semester one, 2009 this course will not be available for commencing students. IT35 will only be available for continuing students. New students - please refer to IT43. Please contact enquiry.scitech@qut.edu.au for any enquiries

Course Structure
Students who commenced Semester 2, 2006 or later
To graduate from the Master of Information Technology, students are required to complete 12 units, consisting of:

- 1 x Compulsory Unit – INN500 IT Project Management
- A minimum of 6 x Advanced Level 1 Units (including INN500)
- A minimum of 1 x Advanced Level 2 Units
- A maximum of 3 x Postgraduate level Elective Units selected from outside the Faculty, in consultation with the Course Coordinator

To exit the Masters course with a Graduate Diploma in Information Technology, students are required to complete 8 units, consisting of:

- 1 x Compulsory Unit – INN500 IT Project Management
- A minimum of 5 x Advanced Level 1 Units (including INN500)
- A minimum of 1 x Advanced Level 2 Units

Students who commenced Semester 1, 2004 and prior to Semester 2, 2006
To graduate from the Master of Information Technology, students are required to complete 12 units, consisting of:

- A minimum of 6 x Advanced Level 1 Units

To exit the Masters course with a Graduate Diploma in Information Technology, students are required to have completed 8 units, consisting of:

- A minimum of 5 x Advanced Level 1 Units
- A minimum of 1 x Advanced Level 2 Units

Articulation
Moving Between Courses
Domestic Students currently enrolled in the Graduate Diploma in Information Technology (IT35) or the Graduate Certificate (IT89, IT90, IT92, IT93, IT94, IT95, IT96, IT98, IT99), are in nested program courses. Upon successful completion of your course, domestic students will be invited to continue with the next stage of the program in the following teaching period. An email will be sent you student email account inviting you continue. If you accept the option to articulate immediately, you will not be required to complete an application for academic credit as units and grades achieved in the lower award will be transferred to the new course.

Students in the Masters course (IT40) wishing to exit with the Graduate Diploma (IT35) are required to submit an Application to Graduate Early with an Approved Exit Course (SRX) Form. These forms must be submitted by Week 13 in the semester you expect to meet the requirements for either the Graduate Diploma or Graduate Certificate.

International students wishing to change courses should consult International Student Business Services.

Unit Incompatibility/Translation Information
Details on the translation and incompatibility of old and new units is located here:
Postgraduate Translation Table
If you have completed the unit(s) listed under the “Translation Unit Codes” column you are not permitted to enrol in the listed new code.

Limits on grades of 3
A new policy concerning grades of 3 came into effect from 1 January 2009 (QUT MOPP C/5.2). With effect from this date grades of 3 are no longer considered a conceded or low pass but are classified as a fail grade. Any grades of 3 awarded prior to 1 January 2009 retain the conceded pass
status and will be counted for graduation purposes up to the maximum number of grades of 3 permitted for your course. Grades of 3 incurred in units that commence after 1 January 2009 will not count towards your degree. Further information is available on the Student Services website.

Further Information
For further information about this course, please contact:

Ernest Foo
Phone: +61 7 3138 2782
Email: enquiry.scitech@qut.edu.au

IT35/40/48 v1 Master of Information Technology (IT Graduates)

Course Structure 2009
From semester one, 2009 this course will not be available for commencing students. IT35 will only be available for continuing students. Please contact enquiry.scitech@qut.edu.au for any enquiries.

Compulsory Unit*
INN500 PRINCE2 (R) Project Management
Only for students who commenced Semester 2, 2006 or later

Advanced Level 1 Units
INN272 Interaction Design
INN280 Fundamentals of Game Design
INN281 Advanced Game Design
INN313 Electronic Commerce Site Development
INN312 Enterprise Systems Applications
INN321 Business Process Management
INN322 Information Systems Consulting
INN342 Enterprise Data Mining
INN385 Multimedia Systems
INN500 PRINCE2 (R) Project Management
INN371 Data Structures and Algorithms
INN365 Systems Programming
INN370 Software Development
INS452 CCNP1: Building Scalable Internetworks
INN352 Network Planning
INN373 Web Application Development
INS454 CCNP3: Building Multi Layered Switched Networks
INN353 Wireless and Mobile Networks

INN374 Enterprise Software Architecture
INN381 Modelling and Animation Techniques
INS455 CCNP4: Optimising Converged Networks
INN181 Introduction to Games Production
INS456 Voice Over IP 1
INS453 CCNP 2: Building Multi Layered Switched Networks
INS457 Voice Over IP 2

Project - 12 and 24 credit points (See Project Units for codes)

Advanced Level 2 Units
INN700 Introduction To Research
INN610 Case Studies in Business Process Management
INN386 Advanced Multimedia Systems
INN382 Real Time Rendering Techniques
INN652 Advanced Cryptology
INN570 Internationalisation of Software
INN650 Advanced Network Management
INN600 Advanced Readings 1
INN601 Advanced Readings 2
INN602 Advanced Readings 3
INN605 Advanced Research 1
INN606 Advanced Research 2
INN607 Advanced Research 3
INN701 Advanced Research Topics

Project Units
INN690 Minor Project 1
INN691 Minor Project 2
INN692 Minor Project 3
INN693 Project
INN694-1 Project 1
INN694-2 Project
INN695 Major Project
INN696-1 Major Project 1
INN696-2 Major Project 2

Intermediate Level Units

With the approval of the Course Coordinator, students seeking skills in a new IT specialisation can select up to two (2) units from the following list of units.

INN271 The Web
<table>
<thead>
<tr>
<th>CRICOS No.</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>INS450</td>
<td>CCNA 1 and 2 Network Fundamentals and Routing</td>
</tr>
<tr>
<td>INS451</td>
<td>CCNA 3 and 4 Lan Switching</td>
</tr>
<tr>
<td>INN341</td>
<td>Software Development With Oracle</td>
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<td>INN311</td>
<td>Enterprise Systems</td>
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<tr>
<td>INN340</td>
<td>Database Design</td>
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<td>INN330</td>
<td>Information Management</td>
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<td>INN335</td>
<td>Information Resources</td>
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<td>INN372</td>
<td>Agile Software Development</td>
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<tr>
<td>INN350</td>
<td>Internet Protocols and Services</td>
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<tr>
<td>INN351</td>
<td>Unix Network Administration</td>
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<td>INN255</td>
<td>Security</td>
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<td>INN355</td>
<td>Cryptology and Protocols</td>
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<tr>
<td>INN370</td>
<td>Software Development</td>
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<tr>
<td>IT89</td>
<td>Graduate Certificate in IT (Wireless Games Technology)</td>
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<td>Four (4) units to be selected from the following</td>
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<tr>
<td></td>
<td>INN272 Interaction Design</td>
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<td>INN350 Internet Protocols and Services</td>
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<td></td>
<td>INN353 Wireless and Mobile Networks</td>
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<td></td>
<td>INN381 Modelling and Animation Techniques</td>
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<tr>
<td>IT90</td>
<td>Graduate Certificate in IT (Computer Networks)</td>
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<td></td>
<td>4 Units to be completed</td>
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<tr>
<td></td>
<td>INN350 Internet Protocols and Services</td>
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<td></td>
<td>INN351 Unix Network Administration</td>
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<td></td>
<td>INN353 Wireless and Mobile Networks</td>
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<td></td>
<td>INN650 Advanced Network Management</td>
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<tr>
<td>IT92</td>
<td>Grad Cert in Information Technology (Information Security)</td>
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<td>Four (4) units to be completed</td>
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<td></td>
<td>INN690 Minor Project 1</td>
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<td>INN255 Security</td>
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<td>INN355 Cryptology and Protocols</td>
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<td>INN652 Advanced Cryptology</td>
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<tr>
<td>IT93</td>
<td>Graduate Certificate in IT (Enterprise Wide Software)</td>
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<td>Four (4) units to be completed</td>
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<td>INN311 Enterprise Systems</td>
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<td>INN312 Enterprise Systems Applications</td>
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<td>INN610 Case Studies in Business Process Management</td>
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<td>INN321 Business Process Management</td>
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<td></td>
<td>IT94 - Graduate Certificate in IT (Electronic Commerce)</td>
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<td>Four (4) units to be selected from the following</td>
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<td>INN271 The Web</td>
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<td>INN340 Database Design</td>
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<td>INN313 Electronic Commerce Site Development</td>
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<td>INN255 Security</td>
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<td></td>
<td>IT95 - Graduate Certificate in IT (Project)</td>
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<td>48 credit points to be completed either full time or part-time</td>
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<td></td>
<td>INN695 Major Project</td>
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<td>INN696-1 Major Project 1</td>
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<td>INN696-2 Major Project 2</td>
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<td>IT Elective</td>
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<td></td>
<td>IT96 - Graduate Certificate in IT (Information Technology Management)</td>
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<td>Four (4) units to be completed</td>
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<td></td>
<td>INN221 Technology Management</td>
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<td>INN322 Information Systems Consulting</td>
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<td>INN330 Information Management</td>
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<td>INN500 PRINCE2 (R) Project Management</td>
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<td></td>
<td>IT98 - Graduate Certificate in IT (Multimedia)</td>
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<td>Four (4) units to be selected from the following</td>
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<tr>
<td></td>
<td>INN271 The Web</td>
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<tr>
<td></td>
<td>INN272 Interaction Design</td>
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<tr>
<td></td>
<td>INN385 Multimedia Systems</td>
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<tr>
<td></td>
<td>INN386 Advanced Multimedia Systems</td>
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<tr>
<td></td>
<td>IT99 - Graduate Certificate in IT (Component Software and Web Services)</td>
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<td></td>
<td>Four (4) units to be completed</td>
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<td></td>
<td>INN372 Agile Software Development</td>
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<td></td>
<td>INN370 Software Development</td>
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<td></td>
<td>INN373 Web Application Development</td>
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<td>INN374 Enterprise Software Architecture</td>
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UNIT SYNOPSISES

INN181 INTRODUCTION TO GAMES PRODUCTION
This subject will provide you with knowledge and skills in games production. By gaining an overview of the production process, you will learn how the technology and the people involved integrate into a coherent and efficient manufacturing process. By the end of this subject you will have the knowledge to conceive, create, integrate and optimise tools and personnel into a complete games production system.

Antirequisites: INB181, ITB751, ITN751  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

INN221 TECHNOLOGY MANAGEMENT
This unit presents operational, tactical and strategic insights that support the activities central to the leadership and management of technology. These insights include project management, organisational leadership, outsourcing, planning, governance and millennium technologies. Such insights are used to inform decision-making - the core skill of any manager. Technology managers must understand the factors influencing any decision point. This unit equips students for the challenges of management and to contribute to the decision-making faced by managers and the staff who advise on these issues.

Antirequisites: ITN241, ITN251, ITN366, INB221  Assumed knowledge: INB103, ITB002 or ITB360  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-1

INN255 SECURITY
This unit aims to give you an understanding of the major issues in information security. You will be able to identify critical information security concepts and determine the information security implications of interactions between entities. You will have knowledge of a range of techniques for protecting information, and understand the limitations of these techniques. You will be aware of international information security management standards.

Antirequisites: INB255, ITB161, ITB523, ITB623, ITB730

INN271 THE WEB
The aims of the unit are to give you a thorough understanding of what the web is, how it works and what it has to offer. Additionally, the unit aims to give you a general understanding and basic skills in developing dynamic web applications, including an appreciation of the variety of implementation technologies available. Through an understanding of how web technologies have evolved to date, you will appreciate the necessity for lifelong learning and become an insightful predictor of future developments in this area. You will learn to critically analyse technological alternatives in order to adapt to and innovate with technologies that presently do not exist. You will appreciate the business or organizational context within which web applications exist and be skilled in communicating within that environment. You will appreciate the social and ethical issues relating to web based systems including accessibility, globalization, privacy, and piracy.

Antirequisites: INN373, INB373  Assumed knowledge: Basic programming and database knowledge is assumed.  Equivalents: ITB007, ITB227, ITN007  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-1

INN272 INTERACTION DESIGN
The aim of this unit is to provide you with an understanding of the theory, practices and challenges associated with the development of creative interactive design and human computer interaction.

Antirequisites: INB272  Equivalents: ITN254  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2

INN280 FUNDAMENTALS OF GAME DESIGN
Modern games production is a complex process involving various businesses and organisations, working with budgets in the tens of millions. One of the roles within a game production team is that of the game designer. It is crucial that a game designer understands how to create a game world, the rules that govern game play and other high level design tasks. This subject provides an introduction to game design, by starting with high level conceptual design tasks before moving to more concrete tasks.

Antirequisites: ITB016 and INB280  Equivalents: ITN016  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2011 SEM-2
INN281 ADVANCED GAME DESIGN
This unit will provide you with theoretical and practical knowledge of advanced games design concepts; that is, specific activities undertaken by game designers and their purpose. By the end of this unit you will have the knowledge to identify problems and suggest solutions for innovative game designs, as well as understand how to carry out the process of designing a game yourself. You will possess practical and theoretical knowledge of game design issues such as: how to design a game level, how to design a task and reward a player for completing it, how to ensure that the player knows how to progress through the game and how to design characters whose behaviour and dialogue provide clues and prompts to the player.

Prerequisites: INN280 Antirequisites: ITB017 and INB281 Equivalents: ITN017 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-1

INN311 ENTERPRISE SYSTEMS
The unit presents and discusses the Enterprise Systems Lifecycle model, orienting students to the requirements of addressing total cost of ownership, change management requirements and process modelling requirements in order to achieve business benefits. Concepts of Enterprise Systems success and associated enablers and barriers are also introduced. This unit introduces the technical architecture of complex 3-tiered client server environments. It seeks to show how an integrated complex database environment meets common business needs, and yet fails to meet the total Information Systems requirements.

Antirequisites: INB311 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-2

INN312 ENTERPRISE SYSTEMS APPLICATIONS
The aim of this unit is to introduce one of the more complex and comprehensive Enterprise Systems applications. This unit introduces the business perspective and application processes of modules (such as FI, CO, PP, MM and S&D) and investigates the support provided by these systems and the integration between modules by following some of the major processes in a business. The unit enables you to experience both the business analyst view and the user's view of the system across a number of business processes.

Antirequisites: INB312, ITB233 Equivalents: ITN233 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-1

INN313 ELECTRONIC COMMERCE SITE DEVELOPMENT
This unit will enable you to specify, design, implement and maintain effective e-commerce applications. You will obtain a broad understanding of the potential of e-commerce and how it can be employed to benefit an organisation. You will get direct experience of creating an e-commerce storefront following a business to business (B to B) or business to consumer (B to C) model. You will also have an understanding of the computer systems that underpin e-commerce including payment systems and secure transactions.

Antirequisites: INB313 and ITB260 Equivalents: ITN260 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-2

INN321 BUSINESS PROCESS MANAGEMENT
The aim of this unit is to introduce you to modern methodologies of Business Process Management. A main objective is to increase your awareness of the close link between business requirements and IT capabilities, and the related fundamental role of business processes. This unit also seeks to develop logical thinking, an appreciation for conceptual models, and the capability to understand and deal with complex systems.

Antirequisites: INB321 Equivalents: ITN298 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-1

INN322 INFORMATION SYSTEMS CONSULTING
The aim of the unit is to develop your skills in the consulting engagement process. This unit will give you an appreciation of the management of consulting practices and an understanding of the consulting sector generally. This unit presents the tactical and strategic issues involved in management consulting, and in particular: client engagement. In the unit there is an emphasis on Information Systems (IS) related work. IS constitutes a substantial portion of consulting activity and cuts across all areas of business expertise. The unit examines the dynamics of IS consulting within the context of large consulting firms and familiarises students with the consulting engagement lifecycle.

Antirequisites: INN335, ITN332, INB322 Assumed knowledge: Good knowledge of professional oral and written communication practices and team work processes is assumed. Equivalents: ITN273 Credit points: 12 Contact hours: 3 per week Campus: Gardens Point Teaching period: 2011 SEM-1

INN330 INFORMATION MANAGEMENT
The aim of this unit is to provide you with an awareness of the activities in which IM professionals are engaged within various organisational contexts. You will use case studies
and introduce yourself to the strategic and analytic elements that comprise information management activities. These activities include the alignment of enterprise information and business planning, enterprise information policy, evaluation of information resources & systems and applications of the information inventory.

**Antirequisites:** INB330  **Equivalents:** ITN266  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2

**INN340 DATABASE DESIGN**
The aim of this unit is to help you develop your knowledge, understand a formal specification tool (ORM) for modelling information systems unambiguously and to apply this formal technique to conceptualise information systems found in many real world application domains.

**Antirequisites:** INB340  **Assumed knowledge:** INN210 or INT200 is assumed knowledge  **Equivalents:** ITN229  **Credit points:** 12  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**INN341 SOFTWARE DEVELOPMENT WITH ORACLE**
This unit aims to develop a sound understanding of database creation, installation, administration, management, security, back up/recovery and application development. The unit aims to develop practical skills in each of these elements, using appropriate Oracle software.

**Prerequisites:** INN210 or ITN200 or INN122 or ITB004  **Antirequisites:** INB341, ITB223  **Equivalents:** ITN223  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2

**INN342 ENTERPRISE DATA MINING**
This unit will provide a comprehensive theoretical coverage of various topics in data and web mining. In addition there will be a significant practical component using hands on tools to solve real-world problems. Specifically, we will consider techniques from machine learning, data mining, text mining, and information retrieval to extract useful knowledge from data which are used for business intelligence, document databases, site management, personalization, and user profiling. This unit will first cover a detailed overview of the mining process and techniques, and then concentrate on applications of these techniques to web, e-commerce, document databases and data from advanced applications.

**Prerequisites:** INN210 or INN340 or INN122  **Antirequisites:** ITB239, INB342  **Equivalents:** ITN239  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2

**INN350 INTERNET PROTOCOLS AND SERVICES**
An understanding of the theoretical and practical concepts of network protocols and services is highly useful and relevant to network engineers and others working in the Information Processing industries. This unit introduces you to Internet protocols and the design, implementation and operation of network based applications. Theory and practical skills taught in this unit will be useful if you intend undertaking further networking units.

**Antirequisites:** INB350, ITB624, ITB629, ITB720, ITN524, ITN529, ITN667  **Assumed knowledge:** INN251 is assumed knowledge.  **Equivalents:** ITN720  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-1

**INN351 UNIX NETWORK ADMINISTRATION**
The aim of this unit is to provide students with a working knowledge of the technical aspects and theory of network administration and management. The unit uses the Unix environment as the learning platform for attaining technical skills and for the development of problem solving skills necessary to be a successful networking professional.

**Prerequisites:** INN350  **Antirequisites:** INB351  **Equivalents:** ITN525, ITN535, ITN721  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2

**INN352 NETWORK PLANNING**
The unit draws together subject matter from a number of different networking-related areas. The aim of the unit is to assemble the previously acquired knowledge and techniques and apply it in a cohesive fashion to the task of network planning.

**Antirequisites:** INB352, ITN722, ITN551, ITB628, ITB551, ITB722, ENN523  **Credit points:** 12  **Contact hours:** 3 per week  **Campus:** Gardens Point  **Teaching period:** 2011 SEM-2

**INN353 WIRELESS AND MOBILE NETWORKS**
This unit provides you with the skills to be able to design and understand the issues involved with different types of wireless communications systems. It develops your knowledge of Wide Area Networks (WANs), Local Area Networks (LANs) and Personal Area Networks (PANs) as well as skills in programming for mobile handsets. You will also develop knowledge of the different types of wireless communications technologies available and when each is most applicable in a particular situation.

**Antirequisites:** INB353  **Assumed knowledge:** INN251 is assumed knowledge.  **Equivalents:** ITB723, ITN723
INN355 CRYPTOLOGY AND PROTOCOLS

Cryptographic techniques are widely used to implement computer and network security. As an IT security professional you may be required either to evaluate or implement information systems using cryptographic algorithms and protocols. This elective unit covers the main cryptographic technical concepts including encryption, digital signatures and cryptographic protocols.

**Antirequisites:** INB355  
**Assumed knowledge:** Maths B or equivalent (e.g. MAB105) is assumed knowledge.  
**Equivalents:** ITB548, ITB566, ITB646, ITB732, ITN566, ITN512, ITN581, ITN732.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1

INN365 SYSTEMS PROGRAMMING

Systems programming is an essential part of any computer-science education. This unit uses operating system concepts to teach the foundations of systems programming and advanced concepts for producing softwares that provide services to computer hardware. Through this study, you will be able to demonstrate knowledge of the principles and techniques of process management, memory and file management, protection & security, and distributed systems.

**Prerequisites:** INN270 or ITB003 or INB270  
**Antirequisites:** ITB706, ITB745, ITB365  
**Assumed knowledge:** Fundamentals of computer architecture; high level programming languages (such as C, C++, C#, Java, python) is assumed knowledge  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-2

INN370 SOFTWARE DEVELOPMENT

Understanding software development is an integral part of the IT industry for software engineers. Software development relies on object technologies, programming techniques and numerous code libraries provided by language developers and third party vendors. Integrated Development Environments, unit testing frameworks, automated and continuous build tools and versioning systems are all becoming part of the tool set modern software developers must be familiar with. This unit is designed to introduce these technologies and techniques to show how software can be rapidly developed.

**Antirequisites:** INB370  
**Assumed knowledge:** INN270 is assumed knowledge.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1

INN371 DATA STRUCTURES AND ALGORITHMS

The purpose of this unit is to ensure that you have a sound knowledge of modern programming techniques and their use in providing medium-scale software solutions. This unit will teach you to decompose a problem and produce a modular solution to a programming task. The principles to analyse algorithms for efficiency will also be introduced. In addition, you will acquire the necessary skills for you to use the tools available in common development environments, such as Microsoft Visual Studio.

**Prerequisites:** INN270 or INB270  
**Antirequisites:** INN271, INB372, TB702, ITB711, ITN711  
**Equivalents:** ITN702  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1

INN372 AGILE SOFTWARE DEVELOPMENT

This unit examines the theory, techniques, and technologies associated with the specification, design, construction and testing of software systems. It integrates specialist knowledge from previous units to prepare you to become a professional software engineer. By the end of this unit, you will have a firm understanding of the principles of software development processes, and the detailed practices of a modern agile methodology. This will extend and refine your knowledge of the traditional software development lifecycle and testing, and putting your new knowledge into practice. You will work together in small teams of four to six people to build a project using an agile methodology and using test-driven development strategies. You will thus be well-prepared to become a member of a professional development team.

**Prerequisites:** INN370  
**Antirequisites:** INB372, ITB712, ITN662, ITN712, ITB612  
**Assumed knowledge:** Good programming, debugging, testing and software development skills.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-2

INN373 WEB APPLICATION DEVELOPMENT

This unit will provide you with an understanding of the issues, structure and technologies used for developing web-based systems. The unit will provide you with the theoretical and practical skills needed to develop enterprise critical applications designed with an n-tier architecture using state of the art technologies. A comparative technology approach is taken, including an analysis of how web technologies have evolved to date, in order to identify common themes and to better enable you to comprehend and critically evaluate future web technology offerings.

**Prerequisites:** INN271  
**Antirequisites:** INB373  
**Assumed knowledge:** INN271 is assumed knowledge.  
**Equivalents:** ITB716, ITN716.  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point
Teaching period: 2011 SEM-1

INN374 ENTERPRISE SOFTWARE ARCHITECTURE
This unit introduces you to the field of enterprise and component-based architecture. It provides a grounding in the knowledge and skills required by a software architect to address the future needs of business IT systems. These include a solid understanding of the IT challenges currently facing medium to large organizations, the theory and technologies used to address them, and an appreciation of the business needs that motivate their use. To enable you to address these challenges you will be exposed to system design methods, and the current technologies, that allow the resulting systems to be adaptive to changing business needs.

Prerequisites: INN270, INB270, ITN700, or ITB003
Antirequisites: INB374 and ITB717
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-2

INN381 MODELLING AND ANIMATION TECHNIQUES
The development of computer graphics tools is a significant application within the IT, Games and related industries, relying heavily on software engineering methodologies. These tools, such as CAD systems, 3D modelling systems and games engines, are used in such industries as advertising, engineering, manufacturing, simulation for education and training, computer games, film special effects, etc. Modelling techniques are intrinsic to a 3D graphics system, especially one used for real time animation. With increased CPU and GPU power, the ability to animate in real time is allowing more sophisticated interaction and the merger of games/simulation and film. The unit will provide you with the knowledge and skills to use an industry standard graphics API to implement graphics applications and to develop a basic real time animation system using an industry standard language.

Prerequisites: (INB371 or INN371) and (MAB281 or MAN281)
Antirequisites: INB381, ITB441, ITB460, ITB648, ITB649, ITB746
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-2

INN382 REAL TIME RENDERING TECHNIQUES
This unit will provide you with knowledge and skills in basic to advanced techniques in real-time rendering using shading languages. You will be able to implement a high-quality real-time rendering system in an industry standard API.

Prerequisites: INN381 and MAB281
Antirequisites: INB382
Credit points: 12
Campus: Gardens Point
Teaching period: 2011 SEM-1

INN385 MULTIMEDIA SYSTEMS
This unit will explore the concepts underpinning multimedia systems and the role played by these technologies in the overall knowledge of a computer professional. You will learn to: design and develop different kinds of interactive multimedia applications; understand the bank of knowledge in cultural developments surrounding the emergence of multimedia technologies; analyse design and processes that contribute to the production of a creative work, using contemporary hardware and software technologies; develop the creative potential of temporal media forms and their placement and use within new media works; understand principles and conventions associated with the interpretation and production of meaning through interactive visual representation.

Antirequisites: INB385
Assumed knowledge: INN271 is assumed knowledge. INN272 should be enrolled in the same teaching period.
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-1

INN386 ADVANCED MULTIMEDIA SYSTEMS
This advanced level unit will give you high level design and development skills in some of the current and emerging areas of the new media. Web delivered applications, stand-alone systems and installations will be included. It will endeavour to give you an in-depth understanding of interactive Multimedia Systems. You will be given the theoretical basis and practical skills to motivate you in the design and creation of a state-of-the-art system in this discipline. In the process it will encourage a professional team approach appropriate to the industry environment.

Prerequisites: INN385
Antirequisites: INB386 and ITB259
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-2

INN500 PRINCE2 (R) PROJECT MANAGEMENT
The majority of information technology (IT) initiatives, such as systems developments and implementations, are introduced into organizations through projects, and the success of these projects depends on their effective management. This unit covers the integration of the multi-disciplinary skills that students would have acquired at stage in the course required to manage IT projects successfully. Specifically, it covers the administrative, technical, communication and socio-political demands placed on modern IT project managers. The unit covers practical, relevant and topical IT project management issues delivered through workshops and lectures.

Prerequisites: Completion of 36 credit points of Postgraduate units (INN% or PUN% or GSN%)
Antirequisites: INB123, ITB365, ITB272
Credit points: 12
Contact hours: 3 per week
Campus: Gardens Point
Teaching period: 2011 SEM-2
ITN272  **Credit points:** 12  **Contact hours:** 4 per week  
_Campus:_ Gardens Point  
_Teaching period:_ 2011 SEM-1 and 2011 SEM-2

**INN570 INTERNATIONALISATION OF SOFTWARE**
Software is now a global market, and developers need to be able to produce applications that can be used in many different cultures and nations. There is a significant body of enabling technology that allows efficient and cost effective development of applications that can be used in diverse contexts. Understanding the principles and the technologies involved in internationalisation and localisation is essential for companies seeking to go global or that are already global.

**Credit points:** 12  **Contact hours:** 3 per week  
_Campus:_ Gardens Point  
_Teaching period:_ 2010 SEM-2

**INN600 ADVANCED READINGS 1**
The aim of this unit is to broaden your understanding of potential research topics and methods and support you in developing essential skills that enable clarity and focus in investigating IT research; rigour in evaluating claims and accuracy in your understanding of domain problems, related theories and methodologies appropriate to your specialist area.

**Assumed knowledge:** Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.

**Credit points:** 12  
_Campus:_ Gardens Point  
_Teaching period:_ 2011 SEM-1, 2011 SEM-2 and 2011 SUM

**INN605 ADVANCED RESEARCH 1**
The aim of this unit is to broaden your understanding of potential research topics and methods and support you in developing essential skills that enable clarity and focus in investigating IT research; rigour in evaluating claims and accuracy in your understanding of domain problems, related theories and methodologies appropriate to your specialist area.

**Assumed knowledge:** Completion of 48 credit points of Postgraduate IT units is assumed knowledge.

**Credit points:** 12  
_Campus:_ Gardens Point  
_Teaching period:_ 2011 SEM-1 and 2011 SEM-2

**INN606 ADVANCED RESEARCH 2**
The aim of this unit is to broaden your understanding of potential research topics and methods and support you in developing essential skills that enable clarity and focus in investigating IT research; rigour in evaluating claims and accuracy in your understanding of domain problems, related theories and methodologies appropriate to your specialist area.

**Assumed knowledge:** Completion of 48 credit points of Postgraduate IT units is assumed knowledge.

**Credit points:** 12  
_Campus:_ Gardens Point  
_Teaching period:_ 2011 SEM-1 and 2011 SEM-2

**INN607 ADVANCED RESEARCH 3**
The aim of this unit is to broaden your understanding of potential research topics and methods and support you in developing essential skills that enable clarity and focus in investigating IT research; rigour in evaluating claims and accuracy in your understanding of domain problems, related theories and methodologies appropriate to your specialist area.

**Assumed knowledge:** Completion of 48 credit points of Postgraduate IT units is assumed knowledge.

**Credit points:** 12  
_Campus:_ Gardens Point  
_Teaching period:_ 2011 SEM-1 and 2011 SEM-2

**INN610 CASE STUDIES IN BUSINESS PROCESS MANAGEMENT**
This unit seeks to develop business process analysts capable of working as consultants. It seeks to develop the generic skills expected in graduates and in particular to develop better interpersonal skills, better written and oral communication skills, skills in conflict resolution, negotiation, project planning and project management. You will learn to...
identify, analyse and consider interdependencies. You will increase your awareness for the challenges of teamwork. The projects also allow you to apply the theoretical knowledge gained in the pre-requisite unit to real practical problems. Overall, you will get insights into the skills, tools and services of consultants.

Prerequisites: INN320 or INN321 with a grade of 6 and a GPA of at least 6  Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-2

INN650 ADVANCED NETWORK MANAGEMENT
Computer networks are an essential component of modern civilization. Students undertaking this unit will have previously learned the fundamental theory and practical aspects of network administration and management. This unit builds upon that foundation and extends the knowledge and skills to enterprise wide networks which are significantly more complex than small networks. Security of enterprise wide networks is an important issue in this unit, along with network management systems.

Prerequisites: INB351 or INN351  Assumed knowledge: INB351, INN351, ITN721 or ITB721 is assumed knowledge.  Equivalents: ITN771  Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-1

INN652 ADVANCED CRYPTOLOGY
Cryptology forms a core discipline in the study of information security. This unit concentrates on the latest developments in cryptology. This is a specialised unit that prepares postgraduate students for research in cryptology. The aim of the unit is to explore and understand recent developments in the theory and practice of cryptology. The unit provides fundamental knowledge for students seeking to undertake postgraduate research or work in the area of information security, especially involving cryptology.

Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-2

INN690 MINOR PROJECT 1
The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

Assumed knowledge: Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

INN692 MINOR PROJECT 3
This unit enables you to carry out an independent or group project addressing a research question or practical problem in theoretical or practical information technology. It provides an opportunity to individualise your studies by concentrating on a specific problem. The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

Assumed knowledge: Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

INN693 PROJECT
The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

Assumed knowledge: Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  Credit points: 24  Campus: Gardens Point  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

INN694 PROJECT 1
This unit enables you to carry out an independent or group project addressing a research question or practical problem in theoretical or practical information technology. It provides an opportunity to individualise your studies by concentrating on a specific problem. The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

Assumed knowledge: Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge. Students must enrol in INN694-2 to receive a result.  Other requisites: Students must complete INN694-2 to receive a grade for this unit  Credit points: 12  Campus: Gardens Point  Teaching period: 2011 SEM-1, 2011 SEM-2 and 2011 SUM

INN694 PROJECT
This unit enables you to carry out an independent or group project addressing a research question or practical problem in theoretical or practical information technology. It provides
an opportunity to individualise your studies by concentrating on a specific problem. The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

**Prerequisites:** INN694-1  
**Assumed knowledge:** Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1, 2011 SEM-2 and 2011 SUM

**INN695 MAJOR PROJECT**  
The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

**Assumed knowledge:** Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  
**Credit points:** 48  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1, 2011 SEM-2 and 2011 SUM

**INN696 MAJOR PROJECT 2**  
The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

**Prerequisites:** INN696-1  
**Assumed knowledge:** Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  
**Credit points:** 24  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1, 2011 SEM-2 and 2011 SUM

**INN696 MAJOR PROJECT 1**  
The aims of this unit are to help you acquire necessary skills in a problem domain, and to enable you to conduct a well-defined project with specific outcomes within a precisely defined project plan. This unit also teaches you how to prepare a well written project report.

**Assumed knowledge:** Completion of at least 48 credit points of Postgraduate level IT units is assumed knowledge.  
**Students must enrol in INN696-2 to receive a result.**  
**Other requisites:** Students must complete INN696-2 to receive a grade for this unit.  
**Credit points:** 24  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1, 2011 SEM-2 and 2011 SUM

**INN700 INTRODUCTION TO RESEARCH**  
This unit is aimed at students undertaking a major research project (see corequisites above). In order to pursue such a project, you must have some insight into the range of possible approaches to research available. Before commencing the research proper, it is necessary to review related literature in depth and prepare a detailed proposal outlining the research question, design and project plan. Quality control and good project management must be exercised throughout the research project. Main items of assessment pertain to each student’s unique, research project being pursued in parallel. This unit aims to give you insight into the range of possible approaches to research, to develop the skills needed to prepare your literature review and research proposal and to assist you in planning and managing time and resources.

**Assumed knowledge:** Must be con-currently enrolled in either full-time or part-time Higher Research Degree (i.e. PhD, ProDoc, Research Masters, or Honours) or, if coursework masters then a 48cp research project. In all instances, must have a formal Principle Supervisor  
**Equivalents:** ITN100  
**Other requisites:** Unit Coordinators Approval and a course GPA of at least 5.5 is required to enrol.  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**INN701 ADVANCED RESEARCH TOPICS**  
All research students need an appreciation of a wide variety of potential approaches to conducting research and an understanding of the key issues that bear on such approaches. INN701 is an advanced unit aimed at research students who are soon to complete a detailed, rigorous and defensible design of their intended research project (e.g. Stage 2). Research students, coursework masters students and honours students intending undertaking a major research project should pursue INN701 either subsequent to, or in parallel with INN700.

**Prerequisites:** INN700 which can be studied in the same teaching period as INN701  
**Assumed knowledge:** INN700 may be waived for invited, advanced, high-performing undergrads  
**Equivalents:** ITN269  
**Other requisites:** GPA of at least 5.5 is required to enrol  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**INS450 CCNA 1 AND 2 NETWORK FUNDAMENTALS AND ROUTING**  
This unit provides in-demand Internet technology skills for designing, building and maintaining networks. Combining instructor-led, online education with hands-on laboratory exercises, the curriculum enables students to apply what they learn in class while working on actual networks. From building basic networking skills to advanced VLAN troubleshooting, the Networking Academy curriculum prepares students for industry certification that lead to lifelong opportunities. Particular emphasis is given to using decision-making and problem-solving techniques in the application of science, mathematics, communication and
social studies concepts to solve networking problems.

**Antirequisites:** INS350  
**Equivalents:** ITS701, ITS601, ITB011, ITN011  
**Credit points:** 12  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**INS451 CCNA 3 AND 4 LAN SWITCHING**  
This unit is the second step to a Cisco career certification path. The aim of this unit is to prepare students for the topics covered in Interconnecting Cisco Networking Devices Part 2 (ICND2) v1.0 (640-816) and Cisco Certified Network Associate Exam (CCNA 640-802). The ICND exam is one of the two qualifying exams available to candidates pursuing a two-exam option for the Cisco Certified Network Associate (CCNA) certification and CCNA 640-802, single-exam option for the Cisco Certified Network Associate CCNA certification.

**Prerequisites:** INS450 which can be studied in the same teaching period as INS451  
**Antirequisites:** INS351  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2011 SEM-1 and 2011 SEM-2

**INS452 CCNP1: BUILDING SCALABLE INTERNETWORKS**  
This unit is the second step to a Cisco career certification path. It provides more knowledge and practical skills on Wide Area Network through various routing protocols and layer 2 related technologies. This unit provides you with advanced level of study on WAN technologies.

**Antirequisites:** INS352  
**Equivalents:** ITS703  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point

**INS453 CCNP 2: BUILDING MULTI LAYERED SWITCHED NETWORKS**  
This unit provides more knowledge and practical skills on building multi-layered switched networks. The aim of the unit is to provide professional knowledge and skills focusing on multi layered switched networks.

**Prerequisites:** INS452  
**Antirequisites:** INS353  
**Equivalents:** ITS704  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2

**INS454 CCNP3: BUILDING MULTI LAYERED SWITCHED NETWORKS**  
This unit is the second step to a Cisco career certification path. It provides more knowledge and practical skills on securing enterprise networks with various security technologies. The aim of this unit is to provide professional knowledge and skills focusing on securing LANs and WANs environment.

**Antirequisites:** INS354  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point

**INS455 CCNP4: OPTIMISING CONVERGED NETWORKS**  
This unit provides more knowledge and practical skills on optimising converged networks. The aim of the unit is to provide professional knowledge and skills focusing on converged networks.

**Prerequisites:** INS454  
**Antirequisites:** INS355  
**Credit points:** 12  
**Contact hours:** 3 per week  
**Campus:** Gardens Point  
**Teaching period:** 2010 SEM-2